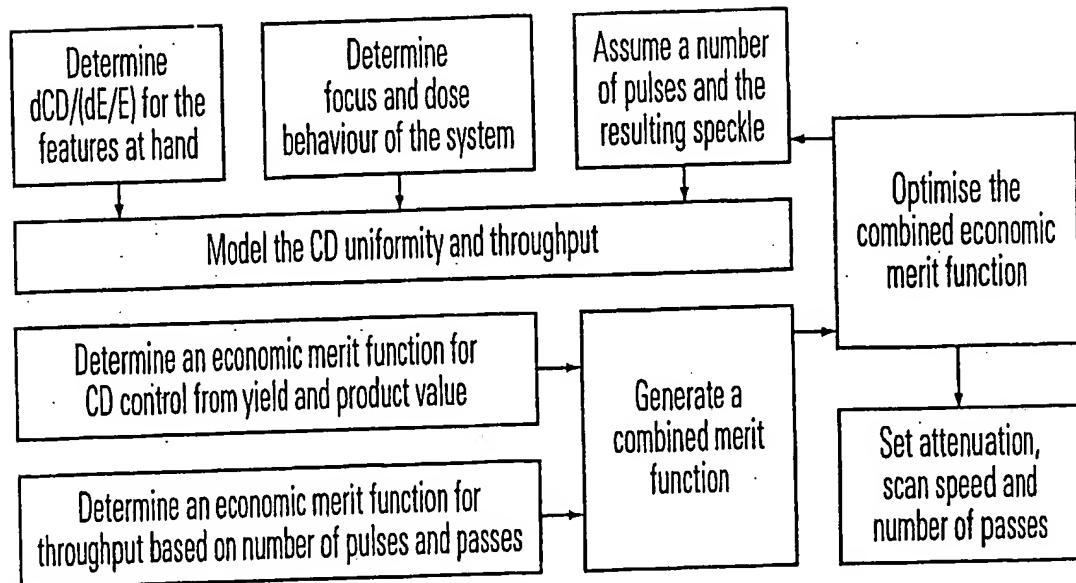


Illumination field with speckle seen through a mask with:

- a. transistor gate structures
- b. contact holes
- (conceptual image)

FIG. 1

Procedure for optimizing the economics for a particular layer.

FIG. 2

2/4

Wavelength Bandwidth	nm pm	248	248	248	248	193	193	193	193	157	157	157	157
		0.2	0.4	0.8	1.6	0.2	0.4	0.8	1.6	0.2	0.4	0.8	1.6
No of pulses	Pulse length ns	Illumination variation (3 sigma)											
		8.8%	6.2%	4.4%	3.1%	6.8%	4.8%	3.4%	2.4%	5.6%	3.9%	2.8%	2.0%
20	20	7.2%	5.1%	3.6%	2.5%	5.6%	3.9%	2.8%	2.0%	4.5%	3.2%	2.3%	1.6%
20	30	6.2%	4.4%	3.1%	2.2%	4.8%	3.4%	2.4%	1.7%	3.9%	2.8%	2.0%	1.4%
20	40	5.1%	3.6%	2.5%	1.8%	3.9%	2.8%	2.0%	1.4%	3.2%	2.3%	1.6%	1.1%
20	60	3.9%	2.8%	2.0%	1.4%	3.1%	2.2%	1.5%	1.1%	2.5%	1.8%	1.2%	0.9%
20	100	2.8%	2.0%	1.4%	1.0%	2.2%	1.5%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%
20	200	7.2%	5.1%	3.6%	2.5%	5.6%	3.9%	2.8%	2.0%	4.5%	3.2%	2.3%	1.6%
30	20	5.8%	4.1%	2.9%	2.1%	4.5%	3.2%	2.3%	1.6%	3.7%	2.6%	1.9%	1.3%
30	30	5.1%	3.6%	2.5%	1.8%	3.9%	2.8%	2.0%	1.4%	3.2%	2.3%	1.6%	1.1%
30	40	4.1%	2.9%	2.1%	1.5%	3.2%	2.3%	1.6%	1.1%	2.6%	1.9%	1.3%	0.9%
30	60	3.2%	2.3%	1.6%	1.1%	2.5%	1.8%	1.2%	0.9%	2.0%	1.4%	1.0%	0.7%
30	100	2.3%	1.6%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%	1.4%	1.0%	0.7%	0.5%
30	200	6.2%	4.4%	3.1%	2.2%	4.8%	3.4%	2.4%	1.7%	3.9%	2.8%	2.0%	1.4%
40	20	5.1%	3.6%	2.5%	1.8%	3.9%	2.8%	2.0%	1.4%	3.2%	2.3%	1.6%	1.1%
40	30	4.4%	3.1%	2.2%	1.6%	3.4%	2.4%	1.7%	1.2%	2.8%	2.0%	1.4%	1.0%
40	40	3.6%	2.5%	1.8%	1.3%	2.8%	2.0%	1.4%	1.0%	2.3%	1.6%	1.1%	0.8%
40	60	2.8%	2.0%	1.4%	1.0%	2.2%	1.5%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%
40	100	2.0%	1.4%	1.0%	0.7%	1.5%	1.1%	0.8%	0.5%	1.2%	0.9%	0.6%	0.4%
40	200	5.1%	3.6%	2.5%	1.8%	3.9%	2.8%	2.0%	1.4%	3.2%	2.3%	1.6%	1.1%
60	20	4.1%	2.9%	2.1%	1.5%	3.2%	2.3%	1.6%	1.1%	2.6%	1.9%	1.3%	0.9%
60	30	3.6%	2.5%	1.8%	1.3%	2.8%	2.0%	1.4%	1.0%	2.3%	1.6%	1.1%	0.8%
60	40	2.9%	2.1%	1.5%	1.0%	2.3%	1.6%	1.1%	0.8%	1.9%	1.3%	0.9%	0.7%
60	60	2.3%	1.6%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%	1.4%	1.0%	0.7%	0.5%
60	100	1.6%	1.1%	0.8%	0.6%	1.2%	0.9%	0.6%	0.4%	1.0%	0.7%	0.5%	0.4%
60	200	3.2%	2.0%	1.4%	1.0%	2.2%	1.5%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%
100	20	3.2%	2.3%	1.6%	1.1%	2.5%	1.8%	1.2%	0.9%	2.0%	1.4%	1.0%	0.7%
100	30	2.8%	2.0%	1.4%	1.0%	2.2%	1.5%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%
100	40	2.3%	1.6%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%	1.4%	1.0%	0.7%	0.5%
100	60	1.8%	1.2%	0.9%	0.6%	1.4%	1.0%	0.7%	0.5%	1.1%	0.8%	0.6%	0.4%
100	100	1.2%	0.9%	0.6%	0.4%	1.0%	0.7%	0.5%	0.3%	0.8%	0.6%	0.4%	0.3%
100	200	2.8%	2.0%	1.4%	1.0%	2.2%	1.5%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%
200	20	2.3%	1.6%	1.1%	0.8%	1.8%	1.2%	0.9%	0.6%	1.4%	1.0%	0.7%	0.5%
200	30	2.0%	1.4%	1.0%	0.7%	1.5%	1.1%	0.8%	0.5%	1.2%	0.9%	0.6%	0.4%
200	40	1.6%	1.1%	0.8%	0.6%	1.2%	0.9%	0.6%	0.4%	1.0%	0.7%	0.5%	0.4%
200	60	1.2%	0.9%	0.6%	0.4%	1.0%	0.7%	0.5%	0.3%	0.8%	0.6%	0.4%	0.3%
200	100	0.9%	0.6%	0.4%	0.3%	0.7%	0.5%	0.3%	0.2%	0.6%	0.4%	0.3%	0.2%
200	200	0.6%	0.4%	0.3%	0.2%	0.5%	0.3%	0.2%	0.1%	0.5%	0.3%	0.2%	0.1%

FIG. 3

SUBSTITUTE SHEET (RULE 26)

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Wavelength nm	Pulse length ns	Illumination variation (3 sigma)											
		248 10	248 20	248 30	248 40	193 10	193 20	193 30	193 40	157 10	157 20	157 30	157 40
Yes	1	24.8%	17.5%	14.3%	12.4%	19.3%	13.6%	11.1%	9.7%	15.7%	11.1%	9.1%	7.9%
Yes	10	7.8%	5.5%	4.5%	3.9%	6.1%	4.3%	3.5%	3.1%	5.0%	3.5%	2.9%	2.5%
Yes	14	6.6%	4.7%	3.8%	3.3%	5.2%	3.6%	3.0%	2.6%	4.2%	3.0%	2.4%	2.1%
Yes	20	5.5%	3.9%	3.2%	2.8%	4.3%	3.1%	2.5%	2.2%	3.5%	2.5%	2.0%	1.8%
Yes	30	4.5%	3.2%	2.6%	2.3%	3.5%	2.5%	2.0%	1.8%	2.9%	2.0%	1.7%	1.4%
Yes	40	3.9%	2.8%	2.3%	2.0%	3.1%	2.2%	1.8%	1.5%	2.5%	1.8%	1.4%	1.2%
Yes	50	3.5%	2.5%	2.0%	1.8%	2.7%	1.9%	1.6%	1.4%	2.2%	1.6%	1.3%	1.1%
Yes	100	2.5%	1.8%	1.4%	1.2%	1.9%	1.4%	1.1%	1.0%	1.6%	1.1%	0.9%	0.8%
No	1	24.8%	17.5%	14.3%	12.4%	19.3%	13.6%	11.1%	9.7%	15.7%	11.1%	9.1%	7.9%
No	10	7.8%	5.5%	4.5%	3.9%	6.1%	4.3%	3.5%	3.1%	5.0%	3.5%	2.9%	2.5%
No	14	6.6%	4.7%	3.8%	3.3%	5.2%	3.6%	3.0%	2.6%	4.2%	3.0%	2.4%	2.1%
No	20	5.5%	3.9%	3.2%	2.8%	4.3%	3.1%	2.5%	2.2%	3.5%	2.5%	2.0%	1.8%
No	30	4.5%	3.2%	2.6%	2.3%	3.5%	2.5%	2.0%	1.8%	2.9%	2.0%	1.7%	1.4%
No	40	3.9%	2.8%	2.3%	2.0%	3.1%	2.2%	1.8%	1.5%	2.5%	1.8%	1.4%	1.2%
No	50	3.5%	2.5%	2.0%	1.8%	2.7%	1.9%	1.6%	1.4%	2.2%	1.6%	1.3%	1.1%
No	100	2.5%	1.8%	1.4%	1.2%	1.9%	1.4%	1.1%	1.0%	1.6%	1.1%	0.9%	0.8%

FIG. 4

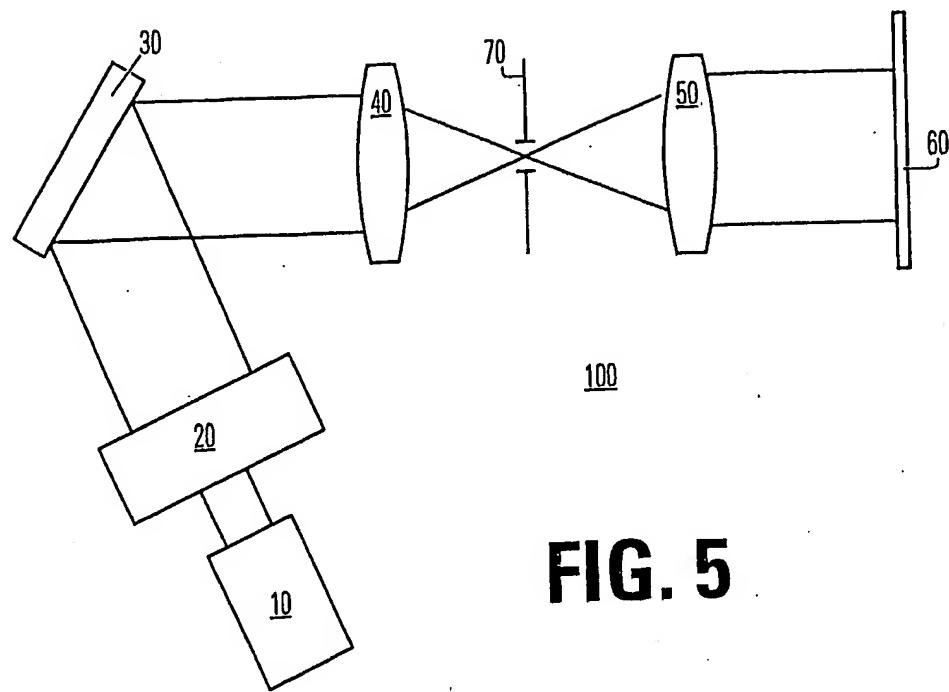


FIG. 5

FIG. 6

